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18 April 2003

Chip Humphrey
US Environmental Protection Agency, Region 10
811 SW 6th Avenue, 3rd Floor
Portland, OR 97204

Tara Martich
US Environmental Protection Agency, Region 10
1200 Sixth Ave, M/S ECL-115
Seattle, WA 98101

Re: Transmittal of Adult Lamprey Reconnaissance Technical Memorandum
Portland Harbor Superfund Site
USEPA Docket No: CERCLA-10-2001-0240

Dear Chip and Tara:

Attached for your review is the technical memorandum prepared by Kennedy/Jenks Consultants for the LWG. The memorandum describes the Lamprey Harvest Reconnaissance Survey conducted by Fishman Environmental Services and Kennedy/Jenks Consultants during the 2002 lamprey harvest.

The objectives of the reconnaissance survey were to determine which species are caught by the tribes and the volume of the annual harvest. Natural history and physical characteristics of the resident and anadromous lamprey species that could be present in the Lower Willamette River are also described. Please call Laura Kennedy, Judy Nedoff, or Bill Williams at Kennedy/Jenks if you have any questions regarding this memorandum.

Sincerely,

Bill A. Williams, Ph.D.
Risk Assessor

cc: LWG Executive Committee

LWG
LOWER WILLAMETTE GROUP

LAMPREY HARVEST RECONNAISSANCE SURVEY FOR 2002 TECHNICAL MEMORANDUM

DRAFT
APRIL 2003

DRAFT DOCUMENT: DO NOT QUOTE OR CITE
This document is currently under review by US EPA and its federal, state and tribal partners, and is subject to change in whole or in part.

Prepared for

Lower Willamette Group

Prepared by

Kennedy/Jenks Consultants
2828 SW Naito Parkway, Suite 250
Portland, Oregon 97201

Introduction

The Lower Willamette Group (LWG) identified a number of studies of a seasonal nature that were described in the Field Sampling Plan (FSP) for Round 1A of the Portland Harbor Remedial Investigation/Feasibility Study (RI/FS). One of the studies included the reconnaissance survey of lamprey species during the annual harvest.

In the Willamette River, adult lampreys are harvested at the base of the Willamette Falls. The lamprey harvest occurs once a year when the lampreys return to freshwater to spawn, usually in June and July. Lampreys are an important food source and an integral part of the Native Americans' cultural and spiritual traditions (Kostow 2002).

Reconnaissance surveys of the lamprey harvest at Willamette Falls were conducted on 26 June 2002 and 22 July 2002. The objective of the surveys was to observe the harvest and to identify the lamprey species harvested. This technical memorandum summarizes the observations and conversations from the reconnaissance surveys.

Lamprey Species in the Lower Willamette River

Historical information for the lower Willamette River and adjacent water bodies suggests that lamprey species that could be present in the lower Willamette River include river lamprey *(Lampetra ayresi)*, western brook lamprey (*Lampetra richardsoni)*, and Pacific lamprey *(Lampetra tridentata*). Of these, only Pacific lamprey was identified as a species present in the lower Willamette River by Farr and Ward (1993), which is the most recent complete study of fish in the lower Willamette River.

Western brook lamprey is a resident species, while river lamprey and Pacific lamprey are anadromous species. Anadromous lampreys spend years at sea during which time they are parasitic, feeding on a wide variety of fish and whales (Kostow 2002). The levels of chemicals in the tissue of adult anadromous lampreys consequently result from direct exposures to contaminants both within the Willamette River and outside the river, in addition to contaminants accumulated by their hosts, who also feed over a wide area of ocean and potentially other rivers. Therefore, contaminant levels in anadromous lampreys are not representative of exposure to chemicals within the Portland Harbor Superfund Site (Site). In contrast, resident species may spend the majority, if not all, of their lives in the lower Willamette and would be more representative of potential exposure within the general area of Portland Harbor. As a result, resident species are more appropriate for evaluating potential risks to human health associated with the Site. Because both resident and anadromous lamprey species may be present in the lower Willamette, determining which species are collected and consumed by human receptors is important in evaluating potential risks to human health associated with the Site.

Adult resident and anadromous lamprey species differ in size and appearance, which allows the species to be easily identified in the field. Adult Pacific and river lamprey, which can reach lengths over 750 mm, or approximately 30 inches, are significantly

larger than the resident western brook lamprey (maximum length of 150 mm, or approximately 6 inches) (Fishbase 2002). Furthermore, unlike adult anadromous lamprey, resident lamprey species are nonparasitic. As a result, adult anadromous lamprey can be distinguished from resident lamprey by the presence of rasping teeth and parasitic oral discs (Kostow 2002).

Reconnaissance Survey on 26 June 2002

On 26 June 2002, Kim Gould, an aquatic biologist from Fishman Environmental Services, LLC, observed the lamprey harvest conducted by the Confederated Tribes of Siletz. Mr. Gould met with Stan Van de Wetering, a Siletz tribal biologist, and Woody Muschamp, a tribal member, as they arrived at the boat launch in Oregon City, OR with a load of freshly collected adult lampreys that they had captured on the rocks below Willamette Falls.

Three large coolers full of lampreys, which were estimated as weighing approximately 100 pounds in aggregate, had been collected. Mr. Gould inspected approximately 10 lampreys, which were representative of the total lamprey collection. All inspected specimens were adult Pacific lamprey, approximately 450 mm in length. Photos of lampreys that were collected during the harvest were taken by Mr. Gould and are included in Attachment A.

The method for collecting the lampreys involved motoring to the base of the falls in a small boat and collecting the lampreys off of the rocks. According to Mr. Muschamp, this harvest was the only collection day of the year for the Confederated Tribes of Siletz. The lampreys collected were to be distributed among approximately 30-40 tribal elders and family members (Muschamp 2002).

Reconnaissance Survey on 22 July 2002

On 22 July 2002, Mr. Gould and Deonne Knill, a scientist from Kennedy/Jenks Consultants, observed the lamprey harvest conducted by the Yakama Nation. Ms. Knill and Mr. Gould, along with members of the Yakama Nation, traveled by boat to Willamette Falls to observe the harvest.

Participating tribal members estimated that approximately 200 pounds of lamprey were collected during the annual harvest (Watanabe 2002). Mr. Gould inspected lampreys representative of the total lamprey collection. All of the lampreys observed by Mr. Gould were adult Pacific lamprey. The lampreys ranged in size from approximately 400 to 650 mm and weighed an estimated average of 10 ounces each. Photos of the harvest and lampreys that were collected were taken by Mr. Gould and are included in Attachment B.

The senior tribal member at the harvest was Joe Jay Pinkham. Mr. Pinkham said he had been harvesting lamprey at Willamette Falls since 1963. Mr. Pinkham said he

was not familiar with the river lamprey and did not recognize a photo and description of the species that was provided to him (Pinkham 2002a).

The method for collecting the lampreys involved traveling to the base of the falls in a boat and collecting lampreys from the rocks. The harvest on 22 July 2002 was the only lamprey collection day for the Yakama Nation. All of the lampreys collected were to be distributed to approximately 100 tribal members.

Conclusion

The objective of the reconnaissance surveys was to observe the harvest and identify the lamprey species collected. The harvests that were observed were the only lamprey collection days during 2002 for the Confederated Tribes of Siletz and the Yakama Nation.

All of the collected lampreys that were observed during the reconnaissance surveys were adult Pacific lamprey. The collected lampreys ranged in size from 400 to 650 mm (approximately 16 to 26 inches), indicating that they could not be the resident western brook lamprey, which are much smaller. Only Pacific lampreys, which are anadromous, were collected during the harvest. Tribal members were not familiar with the river lamprey, another anadromous species. The resident lamprey species, western brook lamprey, does not appear to be harvested for consumption by Native American tribal members.

References

Farr RA and DL Ward. 1993. Fishes of the Lower Willamette River near Portland, Oregon. Northwest Science. 1993; 67(1):16-22.

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Kostow, K. 2002. Oregon Lampreys: Natural History Status and Analysis of Management Issues. Oregon Dept. Fish & Wildlife. 25 February 2002.

Muschamp, Woody (Confederated Tribes of Siletz). 2002. Personal communications, conversation with Kim Gould, Aquatic Biologist, Fishman Environmental Services, Portland, OR. 26 June 2002.

Pinkham, Joe Jay (Yakama Nation). 2002a. Personal communications, conversation with Kim Gould, Aquatic Biologist, Fishman Environmental Services, Portland, OR. 22 July 2002.

Pinkham, Joe Jay (Yakama Nation). 2002b. Personal communications, conversation with Deonne Knill, Senior Staff Scientist, Kennedy/Jenks Consultants, Portland, OR. 22 July 2002.

Watanabe, Anne (Yakama Nation). 2002. Personal communications, email to Deonne Knill, Senior Staff Scientist, Kennedy/Jenks Consultants, Portland, OR. 23 July 2002.

Attachment A

LWG
LOWER WILLAMETTE GROUP

Attachment A


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Attachment B

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Attachment B